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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,038	01/17/2002	Nobuko Fukuoka	P 284995 5JG32931-USAAT	1206
909	7590	07/02/2004	EXAMINER	
PILLSBURY WINTHROP, LLP P.O. BOX 10500 MCLEAN, VA 22102			HON, SOW FUN	
			ART UNIT	PAPER NUMBER
			1772	
DATE MAILED: 07/02/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/050,038	<b>Applicant(s)</b> FUKUOKA ET AL.	
	<b>Examiner</b> Sow-Fun Hon	<b>Art Unit</b> 1772	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 May 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/13/04 has been entered.

***Withdrawn Rejections***

2. The 35 U.S.C. 103(a) rejection of claims 1-2 has been withdrawn due to Applicant's amendment dated 05/13/04.

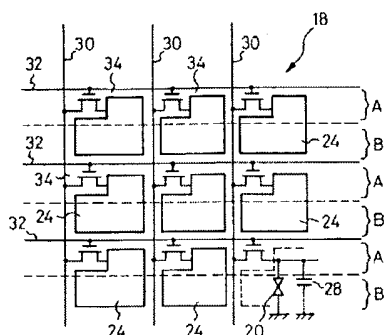
***New Rejections***

***Claim Rejections - 35 USC § 103***

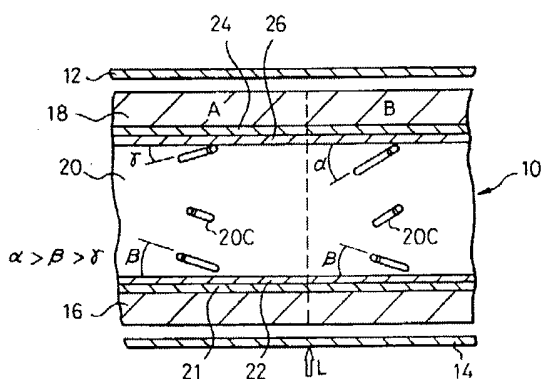
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koike et al. (previously cited US 5,629,056) in view of Takamatsu et al. (US 4,593,977).

Koike et al. has a liquid crystal display element (panel) comprising: a circuit array substrate 18 having pixel electrodes 24 (connected to an active matrix circuit) (column 11, lines 60-70). Fig. 6 on the next page shows the circuit array substrate 18 (active matrix circuit) (column 12, lines 1-10).



Below in Fig. 4, Koike et al. shows a circuit array substrate 18 having pixel electrodes 24, a counter substrate 16 (column 12, lines 1-2) having a common electrode 21, alignment films 22 and 26 formed on said pixel electrodes 24 and said common electrode 21, and a liquid crystal composition 20 charged in a gap between said circuit array substrate 18 and counter substrate 16 (column 11, lines 50-55).

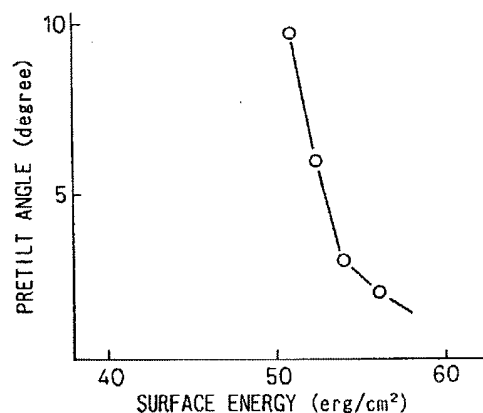


While Koike et al. teaches that the color filter layer (not shown) is provided under the common electrode 21 (column 11, lines 65-70), Koike et al. also states that it is possible to reverse the common electrode 21 and the pixel (element) electrode 24 (column 12, lines 1-2). Therefore it would have been obvious to one of ordinary skill to have interposed the color filter under the pixel electrode 24 instead of common electrode

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21, which places the color filter between the pixel electrode 24 and the circuit array substrate 18.

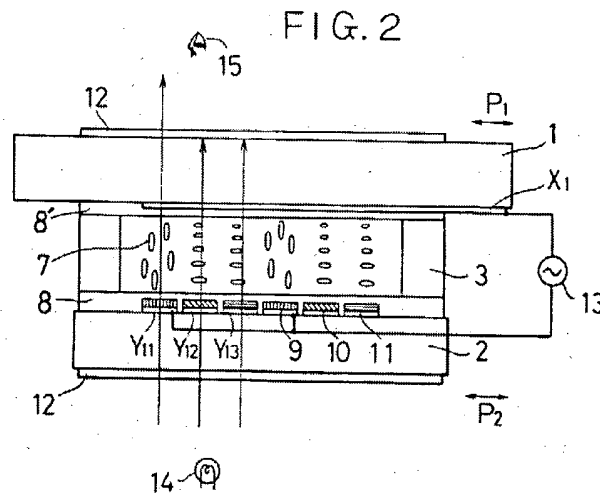
Koike et al. teaches that an increase in surface energy of the alignment films reduces the pretilt angle, and that this is done by taking advantage of UV irradiation of the polyimide film (column 16, lines 1-15). The polyimide film before irradiation has a higher pretilt angle with the corresponding lower surface energy (column 15, lines 55-65). Thus Koike et al. teaches that low pretilt angle with the corresponding high surface energy for the alignment film is desirable.



The graph of pretilt angle versus surface energy above shows that the area of interest corresponding to the desired low tilt angle is the one with the surface energy of greater than 50 and less than 60 dyn/cm ( $\text{erg/cm}^2$ ) which overlaps the claimed range of 51 to 60 dyn/cm. The prevention of image-sticking phenomenon and white or black turbid spots is the inherent result of the low pretilt angle with the corresponding high surface energy of the alignment layer, as evidenced by Applicant (Specification, page 7, lines 15-20).

Koike et al. fails to teach that the color filter is a resin layer, and that it contacts at least a portion of the alignment film.

Takamatsu et al. teaches a color liquid crystal display where the color filter (9-11) contacts at least a portion of the alignment (orientation) film 8 (column 8, lines 55-60).



The color filter is made from mixing ink and resin (column 10, lines 45-50). Takematsu et al. thus demonstrates that a color liquid crystal display, where the color filter is a resin layer and contacts at least a portion of the alignment film, is notoriously well known in the art.

Therefore it would have been obvious to one of ordinary skill in the art to have used the resin color filter and color filter configuration of Takematsu et al. in the invention of Koike et al. in order to obtain a color liquid crystal display.

### *Response to Arguments*

5. Applicant's arguments with respect to claims 1-2 have been considered but are moot in view of the new ground(s) of rejection.

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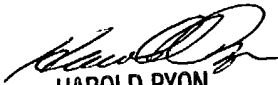
Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sow-Fun Hon

06/24/04

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

6/28/04